

Department of Energy

Ohio Field Office Fernald Area Office

P. O. Box 538705 Cincinnati, Ohio 45253-8705 (513) 648-3155



DOE-1176-98

SEP 0 9 1998

Mr. Paul Pardi, RCRA Group Leader and FFCA Project Manager Ohio Environmental Protection Agency Division of Hazardous Waste Management 401 East 5th Street Dayton, Ohio 45402-2911

Dear Mr. Pardi:

SUBMITTAL OF CROSS-REFERENCE INDEX PURSUANT TO THE DIRECTOR'S FINAL FINDINGS AND ORDERS FILED JUNE 6, 1996

Reference: Letter and Director's Final Findings and Orders, T.E. Crepeau, OEPA to P. Hamric, U. S. DOE and J. Bradburne, FERMCO, dated June 6, 1996.

In accordance with Section V, Order #2 of the referenced Director's Final Findings and Orders (DF&O) enclosed is a cross-reference index of Hazardous Waste Management Unit (HWMU) closure components and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) documents for those HWMUs identified in Attachment A of the DF&O. The index links specific components of the Ohio Environmental Protection Agency's (OEPA) Interim Final Closure Plan Review Guidance for RCRA Facilities related to substantive closure requirements with the appropriate CERCLA document which addresses those components. The list is cumulative and provides page numbers and sections for those CERCLA documents which have already been submitted.

The submittal of this cross-reference index meets the requirement in Section V to provide this document following the submittal of a CERCLA document identified in the cross-reference index. The Final Operable Unit 1 (OU1) Remedial Design Documents Package was submitted to the OEPA and U.S. Environmental Protection Agency (U.S. EPA) on August 28, 1998. The specific references to this document in the cross-reference table have been highlighted.

SEP 09 1998

Mr. Paul Pardi

-2-

If you have any questions regarding this matter, please contact Bob Danner at (513) 648-3167.

Sincerely,

FEMP:Danner

Glenn Griffiths Acting Director

Enclosure

cc w/enclosure:

- J. Reising, OH/FEMP
- D. Ansara, FDF/52-1
- R. Fellman. FDF/52-1
- R. Holmes, FDF/3
- T. Walsh, FDF/65-2

AR Coordinator, FDF/78

cc w/o enclosure:

A. Tanner, OH/FEMP

CLOSURE PLAN COMPONENT 1		CERCLA DOCUMENT	CROSS REFERENCE INDEX
Description/Detailed Drawing of Waste Management Unit(s) to be Closed (Closure Guidance Item 3.2 and 3.4)	ดบเ	FINAL Remedial Investigation Report, August 1994	Waste Pit 4 (27): Description, pp. 1-23 to 1-24; History, pp. 1-35 to 1-36; Drawings, pp. 1-83, 1-88 Waste Pit 5 (42): Description, pp. 1-24 to 1-27; History, pp. 1-36 to 1-37; Drawings, pp. 1-83, 1-89
	OU3	FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	HWMU Component Number and Associated D&D Complex: Table 3-10, p. 3-71 D&D Complex Locations: Figure 2-2, p. 2-17
	OU3	Implementation Plans for Above- Grade Decontamination and Dismantlement	Drawing of HWMU: To be Submitted for Each D&D Complex
		FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996	Plant 1 Storage Bldg Bldg. 67 (25): Figure D-11
		FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Plant 9 Warchouse - Bldg. 81 (35): Figure D-10, D-11
		DRAFT Mise. Small Structures D&D Project Implementation Plan, April 1998	Waste Oil Decant Shelter (component of Trane Incinerator) (28): No drawing available for this unit
			KC-2 Warchouse - Bldg. 63 (34) Figure D-22, D-23 UNH Tunks - NFS Storage Area (46):
	OUS	FINAL Remedial Investigation Report, March 1995	Figure D-1 General Location Map of HWMUs to be Closed Under CERCLA: Figure 4-112 Size and Dimensions of HWMUs: Table 1-12 FEMP Topographic Map: Figure 3-1 General HWMU Information and Locations Within OU5 Areas, Appendix D: Plant 1 Storage Pad (20): Plant 1 Area, Section D.2.1, p. D.2-2 UNH Tanks (46-50), NAR System (10), Trane Incinerator (28): Plant 2/3 Area, Section D.2.2, p. D.2-19 Plant 8 East and West Drum Storage Pads (17, 18), Box Furnace (14): Plant 8 Area, Section D.2.5, p. D.2-33 Sludge Drying Beds (41): Sewage Treatment Plant Area, Section D.2.7, p. D.2-41
(w			Abandoned Sump West of Pilot Plant (22): Pilot Plant Area, Section D.2.8, p. D.2-45 Tank Farm Sump (11): Tank Farm and Boiler House Area, Section D.2.13, p. D.2-69 Fire Training Facility (1): Fire Training Area, Section D.2.18, p. D.2-86

CLOSURE PLAN COMPONENT !		CERCLA DOCUMENT	CROSS REFERENCE INDEX	
2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5)	ดบา	FINAL Remedial Investigation Report, August 1994	Waste Managed in Unit: Waste Pit 4 (27): pp. 4-60 to 4-70, pp 1-35 to 1-36 Waste Pit 5 (42): pp. 4-70 to 4-77, pp 1-36 to 1-37	ļ
	OU3	FINAL Remedial Investigation/Feasibility Study Report	Waste Managed in HWMU: Table K-1	
	OU3	Implementation Plans for Above- Grade Decontamination and Dismantlement	Waste Managed in HWMU: To be Submitted for Each D&D Complex	
		FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996	Plant 1 Storage Bldg Bldg. 67 (25): Section 3.7, p. 42	
		FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Plant 9 Warehouse - Bldg. 81 (35) Section 3.13, pp. 39 to 40	
		DRAFT Misc. Small Structures D&D Project Implementation Plan, April 1998	Waste Oil Decant Shelter (component of Trane Incinerator) (28): Section 3.17, p. 51	
·		•	KC-2 Warchouse - Bldg. 63 (34) Section 3.23, pp. 58 to 59	
			UNH Tanks - NFS Storage Area (46): Section 3.1, pp. 31 to 32	
	OU5	FINAL Remedial Investigation Report, March 1995	HWMUs with Potential Soil Contamination: Tables 4-68 and 4-69	
	OU5	FINAL Feasibility Study Report, June 1995	HWMU Constituents of Concern (COCs) for Soil: Tables 4-4, 4-5 and 4-6	
·	OU5	FINAL Sitewide Excavation Plan, July 1998	HWMU COCs: Table 2-1	:
	OU5	Integrated Remedial Design Packages for Individual	HWMU COCs: To be Submitted	<u>⊢</u>
		Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997	Sludge Drying Beds (41): Section 2.1.2, Sludge Drying Beds, p. 2-3	& &
Removal of Waste and Contaminated Media (Closure Guidance Item 3.6)	oni	FINAL Remedial Design Documents Package, August 1998	Removal of Waste - Waste Pit 4 (27), Waste Pit 5 (42): Volume 2, Excavation Plan	

CLOSURE PLAN COMPONENT 1		CERCLA DOCUMENT	CROSS REFERENCE INDEX
Removal of Waste and Contaminated Media (Closure Guidance Item 3.6) - Continued	OU3	FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	General Methods for Removing and Storing Waste: HWMU Decontamination, Section 3.2.3, p. 3-13; Materials Management, Section 3.3, pp. 3-30 to 3-63; HWMU Remediation (use of Safe Shutdown, D&D of complexes), Section 3.5.3, pp. 3-69 to 3-73
	OU3	Implementation Plans for Above- Grade Decontamination and Dismantlement	Removing Waste from HWMU Storage, Treatment, and Disposition of Waste: To be Submitted for Each D&D Complex
_		FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996	Plant 1 Storage Bldg Bldg. 67 (25): Section 3.7, p. 42
		FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Plant 9 Warehouse - Bldg. 81 (35): Section 3.13, pp. 39 to 40
,		DRAFT Misc. Small Structures D&D Project Implementation Plan, April 1998	Waste Oil Decant Shelter (component of Trane Incinerator) (28): Section 3.17, p. 51
	1		KC-2 Warehouse - Bldg. 63 (34) Section 3.23, pp. 58 to 59
			UNH Tanks - NFS Storage Area (46): Section 3.1, p. 32
	ous	FINAL Sitewide Excavation Plan, July 1998	Excavation, Loading, Staging, Storage, Treatment and/or Disposition of Impacted Material:
			Section 2.0, Remediation Issues and General Strategies; Section 3.0, General Implementation Approach; Section 4.0, Location Specific Excavation Approaches; Appendix B, Sitewide Sequencing Plan; Appendix F.3 to F.5, Implementation of Construction; Appendix I, Sitewide Excavation of Contamination by Constituent
	OU5	Integrated Remedial Design Packages for Individual Remediation Areas	Area/Phase-Specific Excavation, Loading, Staging, Storage, Treatment and/or Disposition of Impacted Material: To be Submitted
G		DRAFT Area I Phase II Implementation Plan, November 1997	Sludge Drying Beds (41) — Sector 3: Removal of Waste: Section 3.3.4.2, Excavation of Above WAC Material in the Sludge Drying Beds, p. 3-32; and Table 3-2, Waste Stream Disposition
			Removal of Impacted Soil Material: Section 3.3.4.3, Excavation of Below WAC/Above FRL Material, p. 3-33; and Table 3-2, Waste Streams Disposition
4. Schedule for Closure (Closure Guidance Item 3.7)	oui	FINAL Remedial Action Work Plan, January 1997	Schedule Summary for Remedial Design/Remedial Action Packages; Closure of Waste Pit 4 (27), Waste Pit 5 (42): Table 2-1, p. 2-16
	OUI	Remedial Action Documents Package	Schedules for Closure of Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted

CLOSURE PLAN COMPONENT 1		CERCLA DOCUMENT	CROSS REFERENCE INDEX
4. Schedule for Closure (Closure Guidance Item 3.7) - Continued	OU3	FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	Accelerated Schedule for Conducting Safe Shutdown Activities at D&D Complexes: Figure 6-1, p. 6-3 Schedule for Submitting D&D Packages: Table 6-1, p. 6-7
	OU3	Implementation Plans for Above- Grade Decontamination and Dismantlement	Schedule for Removing & Decontaminating Above-Grade Unit Structures and Equipment: To be Submitted for Each D&D Complex
· .		FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996	Plant 1 Storage Bldg Bldg. 67 (25): Figure 4-1, p. 48
		FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Plant 9 Warehouse - Bldg. 81 (35) Figure 4-1, p. 43
		DRAFT Misc. Small Structures D&D Project Implementation Plan, April 1998	Waste Oil Decant Shelter (component of Trane Incinerator) (28):; KC-2 Warehouse - Bldg. 63 (34); UNH Tanks - NFS Storage Area (46): Section 4.0, p. 61
·	OU5	FINAL Remedial Design Work Plan, August 1996	Schedule for Submitting Remedial Design Documents for Soil: Table 4-1, p. 4-6
·	005	FINAL Sitewide Excavation Plan, July 1998	Schedule for Submitting Remedial Design Documents: Table 1-5
·	OUS	Integrated Remedial Design Packages for Individual Remediation Areas	Area/Project-Specific Schedules: To be Submitted
		DRAFT Area 1 Phase II Implementation Plan, November 1997	Sludge Drying Beds (41) — Sector 3: Section 6.10, Schedule, p. 6-20; and Figure 6-5, Area 1 Phase II Sector 3 Schedule
5. Health and Safety Issues (Closure Guidance Item 3.9)	OUI	Remedial Action Documents Package	Health and Safety Plan: To be Submitted
	OU3	FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	Health and Safety Plan: Appendix E
	OU5	FINAL Sitewide Excavation Plan, July 1998	Health and Safety Plan: Section 6.0, Project Health and Safety; Table 6-1, Occupational Monitoring and Action Levels

CLOSURE PLAN COMPONENT 1		CERCLA DOCUMENT	CROSS REFERENCE INDEX
5. Health and Safety Issues (Closure Guidance Item 3.9) - Continued	OU5	Integrated Remedial Design Packages for Individual Remediation Areas	Area/Phase-Specific Health and Safety Requirements: To be Submitted
		DRAFT Area 1 Phase II Implementation Plan, November 1997	Section 5.0, Project Specific Health and Safety
6. Decontamination Efforts (Closure Guidance Item 3.10)	OUI	Remedial Action Documents Package	Decontamination of Equipment To be Submitted
	OU3	FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	HWMU Decontamination: Section 3.2.3, p. 3-13 HWMU Remediation: Section 3.5.3, pp. 3-69 to 3-73 (use of Safe Shutdown, D&D of complexes)
	OU3	Implementation Plans for Above- Grade Decontamination and Dismantlement	Decontamination of Above-Grade Unit Structures and Equipment: To be Submitted for Each D&D Complex
		FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996	Plant 1 Storage Bldg Bldg. 67 (25): HWMU Decontamination: Section 3.7, pp. 42 to 45 Materials Management: Table 2-4, p. 12
		FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Plant 9 Warehouse - Bldg. 81 (35): HWMU Decontamination: Section 3.13, pp. 39 to 40 Materials Management: Table 2-1, p. 12
·		DRAFT Misc. Small Structures D&D Project Implementation Plan, April 1998	Waste Oil Decant Shelter (component of Trane Incinerator) (28): Section 3.17, pp. 51 to 52
		· ·	KC-2 Warehouse - Bldg. 63 (34) Section 3.23, pp. 59 to 60
·			UNH Tanks - NFS Storage Area (46): Section 3.1, pp. 32 to 33
	OU5	FINAL Sitewide Excavation Plan, July 1998	Decontamination of Excavation Equipment: Section F.2.3, Installation of Decontamination and Wash Facilities
	OU5	Integrated Remedial Design Packages for Individual Remediation Areas	Area/Phase-Specific Requirements for Decontamination of Excavation Equipment: To be Submitted
		DRAFT Area 1 Phase II Implementation Plan, November 1997	Studge Drying Beds (41): Equipment Decontamination: Section 3.3.2.9, Installation of Equipment Decontamination Facility, p. 3-27; and Section 3.3.4.2, Excavation of Above WAC Material in the Studge Drying Beds, p. 3-32
			Remediation-Generated Water Management: Section 3.4.4, Wastewater Management, p. 3-43; and Table 3-2, Waste Stream Disposition

CLOSURE PLAN COMPONENT 1		CERCLA DOCUMENT	CROSS REFERENCE INDEX
7. Remediation Standards for Soils and Groundwater ² (Closure Guidance Items 3.11, 3.11.1, 3.11.2, and 3.12)	oni	FINAL Record of Decision, January 1995	Waste Pit (27, 42) Area: pp. 9-1 to 9-11 Tables B-5 to B-16
	oui	OUI Remedial Design Pre-Final Design Package II, March 1996	Waste Pit (27, 42) Area: pp. A-3 to A-7
	OU5	FINAL Record of Decision, January 1996	Final Remediation Levels (FRLs) for Soil and Groundwater: Table 9-3, p. 9-23 Table 9-4, p. 9-26
	OU5	FINAL Sitewide Excavation Plan, July 1998	Summary of Contaminant Levels Pertinent to Soil Remediation at the FEMP: Table 1-4; Final Remediation Levels: Section 2.1.3, p. 2-10 Constituents of Ecological Concern: Section 2.1.4, p. 2-13 Preliminary Identification of Primary, Secondary COCs and Ecological COCs Assigned to Remediation Areas: Table 2-7
	OU5	Integrated Remedial Design Packages for Individual Remediation Areas	Area/Phase-Specific FRLs: To be Submitted
		DRAFT Area I Phase II Implementation Plan, November 1997	Sludge Drying Beds (41): Section 3.3.7, HWMU Closure and Certification, p. 3-39
Sampling Plan and Analytical Procedures (Closure Guidance Item 3.13) Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean.	OUI	FINAL Remedial Investigation Report, August 1994	Procedures for Determining Nature and Extent of Contamination at Waste Pit Area: Waste Pit 4 (27), Waste Pit 5 (42): Chapter 2, pp. 2-1 to 2-161
	OUI	OU1 Remedial Action Design Package	Procedures for Sampling and Analysis of Waste Pit Area; Certification of Waste Pit Area Cleanup: To be Submitted
	OU5	FINAL Remedial Investigation Report, March 1995	Procedures for Determining Nature and Extent of Soil Contamination: Chapter 2, pp. 2-1 to 2-83
	OU5	FINAL Sitewide Excavation Plan, July 1998	Procedures for Certifying Attainment of Soil Cleanup: Section 2.2.2, p. 2-18 to 2-19; Section 2.2.5, p. 2-22 to 2-23; Section 3.4, p. 3-22 to 3-23; Appendix G, Certification Design Rationale
	OU5	Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas	Area/Phase-Specific Procedures for Certifying FRL Attainment: To be Submitted
		DRAFT Area 1 Phase II Implementation Plan, November 1997	Sludge Drying Beds (41): Section 3.3.7, HWMU Closure and Certification, p. 3-39



CLOSURE PLAN COMPONENT '		CERCLA DOCUMENT	CROSS REFERENCE INDEX
Sampling Plan and Analytical Procedures (Closure Guidance Item 3.13) Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean - Continued	OU5	Certification Design Letters for Individual Remediation Areas	Area/Phase-Specific Procedures for Certifying FRL Attainment: To be Submitted
		DRAFT Area I Phase II Certification Design Letter	Sludge Drying Beds (41): To be Submitted
Description of Removal Efforts and Treatment Processes (Closure Guidance Item 3.14)	oui	FINAL Remedial Design Documents Package, August 1998	Removal and Handling of Waste Pit Waste - Waste Pit 4 (27), Waste Pit 5 (42): Volume 2, Excavation Plan
	OUI	Remedial Action Documents Package	Processing of Waste Pit Waste - Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted
	OU3	Implementation Plans for Above- Grade Decontamination and Dismantlement	Removal and Treatment of Waste in HWMU: To be Submitted for Each D&D Complex (where applicable)
	OU5	FINAL Feasibility Study Report, June 1995	Evaluation of Technologies and Process Options: Section 3.3, p. 3-5
	OU5	FINAL Sitewide Excavation Plan, July 1998	Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material: Section 2.0, Remediation Issues and General Strategies; Section 3.0, General Implementation Approach; Section 4.0, Location Specific Excavation Approaches; Appendix B, Sitewide Sequencing Plan; Appendix F, Implementation of Construction; Appendix I, Sitewide Extent of Contamination by Constituent
	OU5	Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas	Area/Phase-Specific Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material: To be Submitted
		DRAFT Area 1 Phase II Implementation Plan, November 1997	Sludge Drying Beds (41): Section 3.3.5.1, Material Not Meeting On-Site WAC; p. 3-37; Section 3.4.3, Waste Stream Storage, Treatment and Disposal; p. 3-41; Section 3.4.4, Wastewater Management, p. 3-43; and Table 3-2, Waste Stream Disposition
10. Landfill Closure Requirements - (if applicable) - (Closure Guidance Item 3.15)	oui	FINAL Record of Decision, January 1995	ARARs: Relevant and Appropriate as some remedial alternatives may require closure to these standards Tables B-28 to B-29
	OUI	FINAL Remedial Design Work Plan, June 1995	Revised ARARs: Tables A-24 to A-25
	OU5	FINAL Record of Decision, January 1996	Not Applicable, if Remediation Levels for Soil and Groundwater are Sufficient for a Clean Hazardous Waste Management Unit Closure ³ : ARARs: Table B-3, p. B.3-10



CLOSURE PLAN COMPONENT 1		CERCLA DOCUMENT	CROSS REFERENCE INDEX
Landfill Closure Requirements - (if applicable) - (Closure Guidance Item 3.15) - Continued .	OUS	Integrated Remedial Design Packages for Individual Remediation Areas	Area/Phase-Specific Landfill Closure Requirements: To be Submitted (if applicable)
		DRAFT Area I Phase II Implementation Plan, November 1997	Sludge Drying Beds (41): Included within Appendix A, Design Criteria Package, Table A-2, p. A-63, but not anticipated to be applicable since HWMU to be clean (risk-based) closed by removal. (See entry 3 above)
11. Certification (Closure Guidance Item 3.16)	oui	Remedial Action Report	Certification Sampling Results: To be Submitted
	003	Project Completion Reports	Summary of HWMU Remediation Activities/Statement of Conformance with Requirements and Performance Standards: To be Submitted for Each D&D Complex
		FINAL Plant 1 Complex - Phase 1 Project Completion Report, December 1997	Plant 1 Storage Bldg Bldg. 67 (25): Section 2.1.3, pp. 7 to 8
	OU5	Certification Reports for Individual Remediation Areas	Area/Phase-Specific Certification Reports: To be Submitted
		DRAFT Area I Phase II Certification Report	Sludge Drying Beds (41) — Sector 3: To be Submitted
	OU5	Remedial Action Report	Summary of Remedial Activities and Statement of Conformance with Requirements and Standards: To be Submitted



CLOSURE PLAN COMPONENT	CERCLA DOCUMENT	CROSS REFERENCE INDEX
12. Status of Facility (or Unit) After Closure (Closure Guidance Item 3.17)	OU1 FINAL Record of Decision, January 1995	Status of Waste Pits After OU1 Remedial Action: pp. 10-1 to 10-9
	OU3 FINAL Record of Decision for Interim Remedial Action, June 1994	Status of Production Area HWMUs After OU3 Remedial Action: Section 5.4, p. 11
	OU5 FINAL Record of Decision, January 1996	Status of FEMP After Soil and Groundwater Remediation: Section 4.0, p. 4-1
	OU5 FINAL Sitewide Excavation Plan, July 1998	Certification Reports: Section 7.4, pp. 7-10 to 7-14
	OU5 Certification Reports for Individual Remediation Areas	Status of those HWMUs That Had Soil Contamination After Soil Remedial Action: To be Submitted



Closure Guidance Items are from the Closure Plan Review Guidance for RCRA Facilities, Ohio EPA, Interim Final, September 1, 1993.

The perched water contamination has many sources, only some of which are the HWMUs. Because of this, it is difficult or impossible to identify the degree to which a HWMU may have contributed to perched water contamination. Therefore, the nature and extent of contamination in the perched water, and the most appropriate remedial action method and objectives, are best achieved under the CERCLA process alone.

Ohio EPA has two options for clean closure where there are no more RCRA requirements (i.e., no post-closure requirements) for the existing HWMUs: (1) complete removal of waste and impacted environmental media, and (2) complete removal of waste and impacted environmental media to health-based standards (known at the FEMP as Final Remediation Levels, FRLs). Post closure requirements will, however, be applicable to the CERCLA on-property disposal cell as it will take some soil and debris contaminated with RCRA-hazardous waste [see Post Closure Care and Inspection Plan, On-Site Disposal Facility (20100-PL-010, Rev. 1, July 1997)].